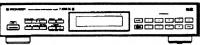


Service Manua





ORDER NO. **ARP2868**

The chapter 1 of this Service Manual will not be reprinted. On your additional orders, we may supply only the chapter 2. For the chapter 1, please make copies and attach to the chapter 2 at your side if necessary.

FM/AM DIGITAL-SYNTHESIZER TUNER

F-303RDS-G

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Tune	Model		Power Requirement	Remarks	
Туре	F-303RDS	F-303RDS-G	Power nequirement	Heilidiks	
HEXK O		AC 220V - 230V	AC 240V, *		
НВХК	HBXK Not used		AC 240V,	AC 220V - 230V, *	
HEWZIXK	0	Not used	AC 220V - 230V	AC 240V, *	
HZIXK	Not used	0	AC 220V - 230V	AC 240V, *	

^{*:} Alter the wiring of the Power-supply block at the primary winding of Power-transformer referring to the "Line Voltage Selection" described in Service Manual.

CONTENTS

CHAPTER 1	CHAPTER 2
1.1 CONNECTIONS	2.1 EXPLODED VIEWS AND PACKING2-3 2.2 SCHEMATIC AND PCB CONNECTION
1.3 SPECIFICATIONS 1-5 1.4 BLOCK DIAGRAM 1-6 1.5 FL INFORMATION 1-7	DIAGRAMS2-5
1.6 PCB PARTS LIST1-8 1.7 ADJUSTMENTS1-10 1.8 PARTS LIST FOR EXPLODED	
AND PACKING1-12	

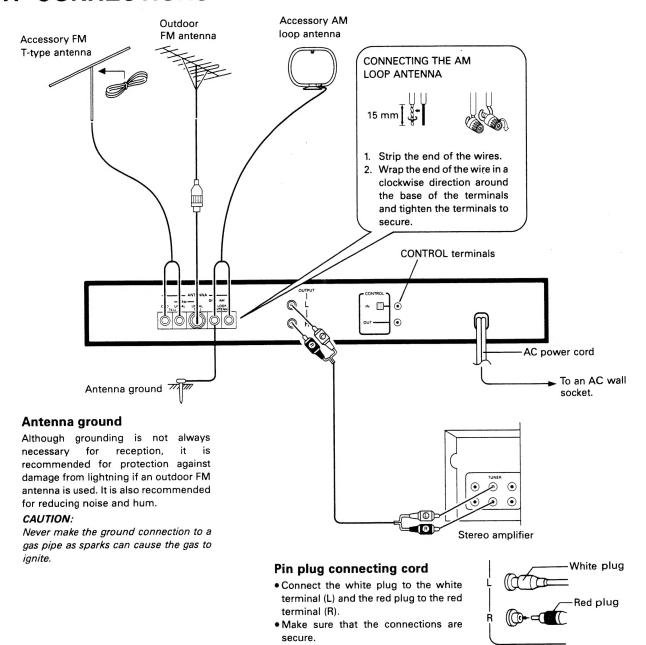
PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan PIONEER ELECTRONICS SERVICE INC. P.O. Box 1760, Long Beach, California 90801 U.S.A. PIONEER ELECTRONICS OF CANADA, INC. 300 Allstate Parkway Markham, Ontario L3R 0P2 Canada PIONEER ELECTRONIC [EUROPE] N.V. Haven 1087 Keetberglaan 1, 9120 Melsele, Belgium

PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia TEL: [03] 580-9911

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CHAPTER 1

1.1 CONNECTIONS



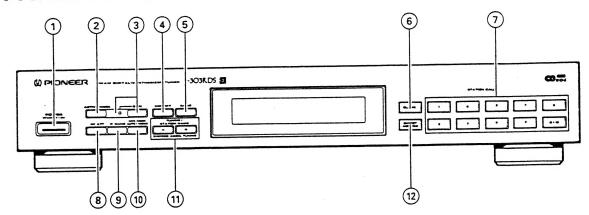
CONTROL Terminals

When using together with a Pioneer component bearing the mark, connect the CONTROL IN terminal on the rear panel of the tuner to the CONTROL OUT terminal on the component using the supplied control cord. This will enable the tuner to be controlled from a distance with the remote control unit supplied with the component.

When this feature is not used, connection is not necessary.

 For instructions regarding connection and operation, please refer to the operating instruction manual of your stereo component.

1.2 PANEL FACILITIES



① POWER (STANDBY/ON) switch

This is the switch for electric power.

ON When set to ON position, power is supplied and the unit becomes operational.

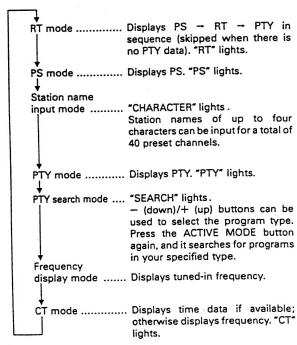
STANDBY When set to STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness.

NOTE:

- The memory will be backed up so long as the power cord is not
- · If the power cord is unplugged, the memory will be retained for several days.
- When not using the unit for a long period, disconnect the power

2 ACTIVE MODE button

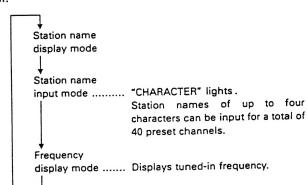
Each time you press this button, the mode changes as follows:



NOTE:

The station name input mode and PTY search mode are skipped when the EON function is used for interrupt waiting.

AM:



3 EON button/indicator

If receiving a station broadcasting EON information, the radio can automatically keep track of broadcast information from other network stations.

If you specify traffic information (TA) or program type (PTY) beforehand, the frequency will change automatically when the specified broadcast begins.

The display's EON indicator lights when receiving EON information. When a specified TA or PTY broadcast is received, this indicator and EON in the display section flash.

4 MEMORY button

Use to preset stations.

This is also used for FM or AM broadcast manual station name character selection. When you want automatic tuning to programs of a particular musical type when using EON PTY, press this button while the desired type is displayed, and interrupt waiting begins.

⑤ BAND selector button

Each time you press this button, the band changes as follows:



© CLASS button

Use to switch between preset memory classes 1 to 4. In each class, 10 stations can be memorized using the STATION CALL buttons, enabling a total of 40 stations to be memorized.

TATION CALL buttons

Use these buttons to preset stations and to receive the already preset stations.

These are also used when performing direct access tuning.

® RF ATT button

Set this button to on when receiving strong FM signals (nearby stations) to reduce sound distortion (RF ATT indicator lights). Normally, this button should be set to off.

This button does not affect AM reception.

NOTE:

This button's status is preset for each station in station memory.

IF BAND button

Each time this button is pressed, the bandwidth of the IF circuit switches between "normal" and "narrow" for the FM band. Set to NARROW in case of interference from other stations. The NARROW indicator lights up. When not lit, normal filter bandwidth is selected.

This button does not affect AM reception.

NOTE:

This button's status is preset for each station in station memory.

MPX (multiplex) MODE AUTO/MONO button

Mode changes as follows each time this button is pressed.

AUTO --- MONO ----

"AUTO" is not displayed.

This button does not affect AM reception.

AUTO:

Normally leave in this mode for reception. When a stereo FM broadcast is received, it will be automatically reproduced in stereo sound and the STEREO indicator lights up.

NOTE.

When the signal level is too weak for reception, sound output is automatically muted.

MONO:

MONO indicator lights up.

To receive stereo broadcasts in monaural.

If there is too much noise during stereo reception of a weak signal, you can reduce the level of noise by switching to MONO.

NOTE:

This button's status is preset for each station in station memory.

① TUNING/STATION NAME — (down)/+ (up) buttons

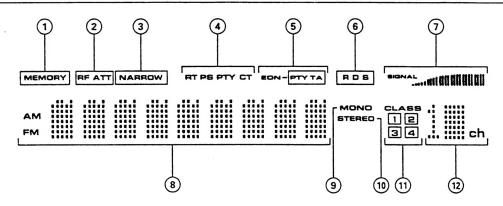
Use for tuning. Press these buttons to change the frequency display (3-Speed Accel Tuning).

In the Manual Name input mode, PTY search mode and when selecting program types on EON PTY, these are used to select characters and program type.

1 DIRECT ACCESS button

When this button is pressed, the STATION CALL buttons function as ten-key number buttons for direct input of the desired reception frequency. Press again to cancel this mode.

OPERATING DISPLAY



MEMORY indicator

② RF ATT indicator

Stays lit while RF ATT button is on.

3 NARROW indicator

Stays lit while IF BAND button is set to NARROW. When not lit, stays NORMAL.

RT, PS, PTY, CT indicator

One of these lights to indicate the selected display mode (selected by the ACTIVE MODE button).

Time is displayed when the CT data is received. It changes to frequency display mode if not lit.

⑤ EON ─ PTY TA indicator

When a station broadcasting EON information is received, EON— lights. After specifying TA or PTY, interrupt waiting begins and the TA or PTY indicator flashes.

® RDS indicator

Lights when an RDS broadcast is received.

① SIGNAL indicator

® Frequency, character, clock time indicator

CT (Clock Time) data, band, RDS data and frequency data are displayed.

9 MONO indicator

Stays lit while MPX MODE AUTO/MONO button is set to MONO.

(1) STEREO indicator

Lights up when a stereo broadcast is received (the indicator does not light when the MPX MODE AUTO/MONO button is set to MONO).

CLASS 1, 2, 3, 4 indicator

Shows the class selected by the CLASS button.

The current CLASS is displayed.

1 Station indicator

When STATION CALL buttons are pressed, it will show the corresponding channel number.

1.3 SPECIFICATIONS

FM Tuner Section	
Frequency Range	87.5 MHz to 108 MHz
Usable Sensitivity	
NORMAL	Mono: 12.7 dBf, IHF (1.2 μV/75 Q)
50 dB Quieting Sensitivity	
	Mono: 18.0 dBf, IHF (2.2 μV/75 Ω)
	Stereo: 38.3 dBf, IHF (22.6 μV/75 Q)
Sensitivity (DIN)	
NORMAL	Mono: 0.9 μV/75 Ω
	Stereo: 32 μV/75 Ω
Signal-to-Noise Ratio	Mono: 80 dB (at 80 dBf)
	Stereo: 75 dB (at 80 dBf)
Signal-to-Noise Ratio (DIN)	Mono: 66 dB
	Stereo: 60 dB
Distortion (at 80 dBf)	
NARROW	Mono: 0.15 % (1 kHz)
	Stereo: 0.2 % (1 kHz)
Alternate Channel Selectivity	
NORMAL	70 dB (400 kHz)
NARROW	70 dB (300 kHz)
Stereo Separation	45 dB (1 kHz)
Frequency Response	±1 dB (30 Hz to 15 kHz)
	80 dB
	90 dB
Subcarrier Product Ratio	
Antenna Input	75 Ω unbalanced

AM Tuner Section

Frequency Range 531 kHz to 1,602 kHz (Step 9 kHz)
Sensitivity (IHF, Loop antenna)
Selectivity
Signal-to-Noise Ratio
Antenna Loop Antenna

Audio Section

Output (Level/Impedance)	
FM (100 % MOD)	650 mV/1.1 k Ω
AM (30 % MOD)	150 mV/1.1 kΩ

Miscellaneous

Power Requirements	AC 240 Volts ~ , 50/60 Hz
	15 W
Dimensions	. 420 (W) x 75.5 (H) x 284 (D) mm
Weight (without package)	2.8 kg

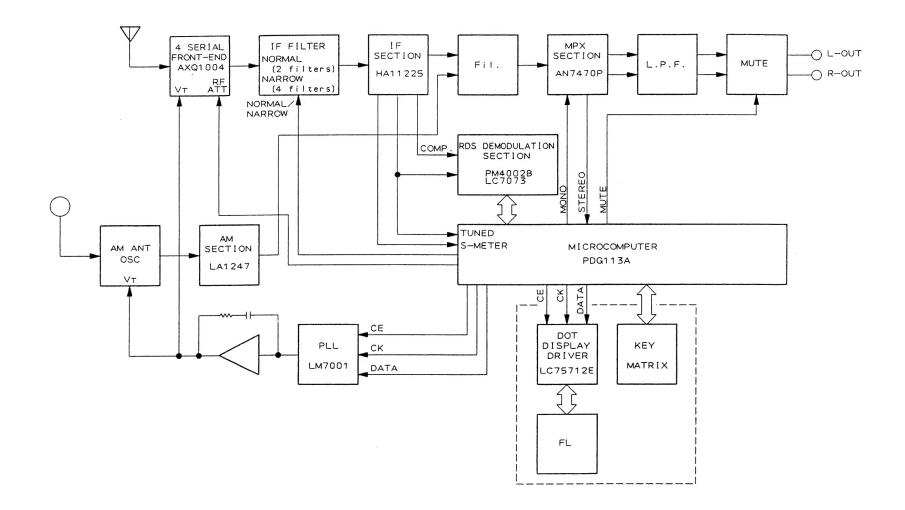
Furnished Parts

FM T-type Antenna
AM Loop Antenna
Connecting Cord with Pin Plugs
Control Cord
Operating Instructions

NOTE:

Specifications and design are subject to possible modifications without notice, due to improvements.

.4 BLOCK DIAGRAM



1.5 FL INFORMATION

AAV1193 (V901)

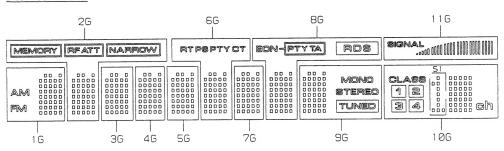
PIN LOCATION

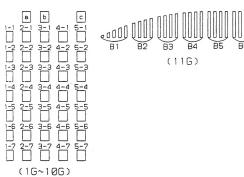


PIN NO.	PIN CONNECT	<u>10N</u>	
CONNECTION FENN 4 4 4 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	PIN NO.		66666666555555 7654321098765
1 2 3 4 5 6 7 8 9 Ø 1 2 3	CONNECTION		
1 2 3 4 5 6 7 8 9 Ø 1 2 3		NNCICICICICICICICICICICICICICICICICICIC	IAIAIAIAIAIAIAIAIEIEIEIEIE
	PIN NO.	1 2 3 4 5 6 7 8 9 9 1 2 3 4 5 6 7 8 9 9 1 2 3 4 5 6 7 8 9 9 1 2 3 4 5 6 7 8 9 9 1 2 3 4 5 6 7 8 9 9 1	121314151617181910111213141
1 1 P P G G G G G G G C C C C C X X X X X X X X	CONNECTION	FFNN12345678NNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNN	

- 1) F1,F2 --- Filament 2) NP ----- No pin 3) NX ----- No extend pin 4) DL ----- Datum Line
- 5) NC ----- No connection 6) 16~116 --- Grid 7) 1C ----- Internal connection 8) Pin50 and pin73 are connected inside.

GRID ASSIGNMENT





P 1	1G B6 B5 B4 B3 B2 B1
P 2 - NARROW PTY - TA TUNED S1 P 3 FW FATT PS - PTY STERED 6 P 4 AM MANORY PT - EN- MCND 3 P 5 C C C C C C C C C C C C C C C C C C	B5 B4 B3 B2 B1
P 3 FM FATT PB - PTV STERED 6 P 4 AM MEMORY RT - SON MICHON 3 P 5 C C C C C C C C C C C C C C C C C C	B4 B3 B2 B1
P 4 ABA MEMORY - - RT - BON- MICHAD 33 P 5 C D	B3 B2 B1
P 5	B2 B1
P 6 b b b b b b b b b b b b CLASS CL	В1
P 7 a a a a a a a a a a a a BASS N P 8 5-7 5-7 5-7 5-75-75-75-75-75-75-7 5-7 5	
P 8 5-7 5-7 5-75-75-75-75-7 5-7 5-7 5-7 P 9 4-7 4-7 4-74-74-74-74-7 4-7 4-7 P 10 3-7 3-7 3-73-73-73-73-7 3-7 3-7 3-7 P 11 2-7 2-72-72-72-72-72-72-7 P 12 1-7 1-7 1-71-71-71-7 1-7 1-7 1-7 P 13 5-6 5-6 5-65-65-65-65-65-6 5-6 5-6 P 14 4-6 4-6 4-64-64-64-64-64-64-6 4-6 4-6 P 15 3-6 3-6 3-63-63-63-63-63-6 3-6 P 16 2-6 2-6 2-62-62-62-62-62-62-62-62-62-62-62-62-62	MAL
P 9 4-7 4-7 4-74-74-74-74-7 4-7 4-7 4-7 P10 3-7 3-7 3-7 3-7 3-7 3-7 3-7 3-7 3-7 3-7	
P10 3-7 2-7 2-6 2-6 2-6 2-6 3-6 3-6 3-6 3-6 3-6 3-6 3-6 3-6 <td>-</td>	-
P11 2-7 2-7 2-72-72-72-72-72-72-72-72-72-7 2-8 2-8 2	-
P12 1-7 1-7 1-7 1-71-71-71-7 1-7 1-7 1-7 P13 5-6 5-6 5-65-65-65-65-65-65-65-65-65-65-65-65-65	-
P13 5-6 5-6 5-65-65-65-65-6 5-6 5-6 5-6 P14 4-6 4-6 4-64-64-64-64-64-6 4-6 4-6 4-6 P15 3-6 3-6 3-63-63-63-63-6 3-6 3-6 3-6 P16 2-6 2-62-62-62-62-62-6 2-6 2-6 2-6 2-6 P17 1-6 1-6 1-61-61-61-61-6 1-6 1-6 1-6 1-6 P18 1-5 1-5 1-51-51-51-51-5 1-5 1-5 1-5 1-5 P19 2-5 2-5 2-52-52-52-52-52-5 2-5 2-5 2-5 P20 3-5 3-53-53-53-53-53-5 3-5 3-5 3-5 3-5 P21 4-5 4-5 4-54-54-54-54-54-5 4-5 4-5 4-5 4-5 P22 5-5 5-5 5-55-55-55-55-55-55-5 5-5 5-5 5-5 P23 2-4 2-42-42-42-42-42-4 2-4 2-4 2-4 2-4	-
P14 4-6 4-6 4-64-64-64-64-64-6 4-6 4-6 4-6 P15 3-6 3-6 3-63-63-63-63-6 3-6 3-6 3-6 3-6 3-6 P16 2-6 2-6 2-62-62-62-62-62-6 2-6 2-6 2-6 2-6 P17 1-6 1-6 1-61-61-61-6 1-6<	-
P14 4-6 4-6 4-64-64-64-64-64-64-6 4-6 4-6 4-6 4-6 P15 3-6 3-5 3-5 3-5 3-5 3-5 3-5 3-5 3-5 3-5 3-5 3-5	_
P15 3-6 3-6 3-6 3-6 3-6 3-6 3-6 3-6 3-6 3-6 3-6 3-6 3-6 3-6 3-6 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5 <td>-</td>	-
P17	-
P18 1-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5 3-5 5-5 5-5 <td>-</td>	-
P19 2-5 2-5 2-5 2-5 2-5 2-5 2-5 P20 3-5 5-5	-
P20 3-5 5-5 <td>_</td>	_
P21 4-5 4-5 4-5 4-5 4-5 4-5 4-5 4-5 4-5 P2 4-5 4-4	-
P21 4-5 4-5 4-5 4-5 4-5 4-5 4-5 4-5 9-6 <td>_</td>	_
P22 5-5 5-5 5-5 5-5 5-5 P23 2-4	_
P23 2-4 3-4 3-4 3-4 3-4 3-4 3-4 3-4 3-4 3-4 3-4 3-4 3-4 4-4 4-4 4-4 4-4 4-4 4-4 4-4 4-4 4-4 4-4 4-4 4-4 4-4 4-4 4-4 4-4 5-4 <td>_</td>	_
P25 4-4 4-4 4-4 4-4 4-4 4-4 4-4 4-4 P26 5-4 5-4 5-4 5-4 5-4 5-4 5-4 P27 1-1 1-1 1-1 1-1 1-1 1-1 1-1 1-1	_
P26 5-4 5-4 5-4 5-4 5-4 5-4 5-4 5-4 5-4 5-4 5-4 1-1 <td>_</td>	_
P27 1-1 1-1 1-1 1-1 1-1 1-1 1-1 1-1 1-1	-
	-
P28 2-1 2-1 2-12-12-12-1 2-1 2-1 2-1	-
	_
P29 3-1 3-1 3-13-13-13-1 3-1 3-1 3-1	-
P30 4-1 4-1 4-14-14-14-1 4-1 4-1 4-1	-
P31 5-1 5-1 5-1 5-1 5-1 5-1 5-1 5-1	-
P32 1-2 1-2 1-21-21-21-21-2 1-2 1-2 1-2	-
P33 2-2 2-2 2-2 2-2 2-2 2-2 2-2 2-2 2-2	
P34 3-2 3-2 3-23-23-23-2 3-2 3-2 3-2	_
P35 4-2 4-2 4-2 4-2 4-2 4-2 4-2 4-2 4-2	_
P36 5-2 5-2 5-2 5-2 5-2 5-2 5-2 5-2	-
P37 1-3 1-3 1-31-31-31-3 1-3 1-3 1-3	_
P38 2-3 2-3 2-32-32-32-3 2-3 2-3 2-3	***
P39 3-3 3-3 3-33-33-33-3 3-3 3-3 3-3	-
P40 4-3 4-3 4-34-34-34-3 4-3 4-3 4-3	_
P41 5-3 5-3 5-35-35-35-3 5-3 5-3 5-3	_
P42 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4	-

1.6 PCB PARTS LIST

NOTES.

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The \triangle mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by " •" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.
 - Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

•			
560Ω		56×10¹ → 561 ···································	RD1/8PM 5 6 1 J
$47k\Omega$		47×10³ → 473 ······	RD1/4PS473J
0.5Ω	\rightarrow	OR5	RN2H0R5K
$I\Omega$	-	010	RS1P 0 1 0 K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

<u>Mark</u>	No.	Description	Parts No. Mar	k Mark	No.	Description	Parts No.	Mark
LIST	OF A	ASSEMBLIES			D101		1 SV156	
					D609		MTZJ27B	
		R ASSEMBLY(HEXK TYPE)	AWE1289		D803		MTZJ4.7	
		TUNER ASSEMBLY	AWZ5319		D610		MTZJ5.1 A	
	L	POWER ASSEMBLY	AWZ5320		D611		MTZJ6.2C	
	TUNE	R ASSEMBLY(HBXK TYPE)	AWE1290	COIL	S AND F	FILTERS		
	-	TUNER ASSEMBLY	AWZ5319		T101		ATE - 063	
	- 1	POWER ASSEMBLY	AWZ5321		T201		ATE1008	
					T202		ATE1009	
	TUNER	ASSEMBLY(HEWZIXK AND HZIXK T	YPESIAWE1288		F103,F10)4	ATF-107	
		TUNER ASSEMBLY	AWZ5317		F101		ATF-119	
		POWER ASSEMBLY	AWZ5318					
		FOWER ASSEMBLT	AW23318		F102		ATF1024	
	DICDI	AN A COEMPLAY	A 32/D1 0.5.4		F301		ATF1042	
	DISPL	AY ASSEMBLY	AWP1054		F501,F50	02	ATF1143	
					F251		ATF1152	
TUN	ER A	SSEMBLY				103,L401,L801	LAU2R2K	
05141		WOTORS						
SEMI		UCTORS	AN7470P		L553	(HEWZIXK AND HZIXK TYPES)	LAU010K	
	IC501	•			L151		LAU470K	
	IC201		HA11225		L551,L55	52 (HEWZIXK AND HZIXK TYPES)	LAU2R2K	
	IC301		LA1247					
	IC702		LC7073	CAP	ACITOR	S		
	IC401	•	LM7001J		C804		ACH1246	
					C703,C70	04	CCDCH220J	150
	IC502		NJM4558LD		C151,C40	03,C404	CCPUCH150	OJ50
	IC602		NJM7812AS		C315,C40	05 - C407	CCPUSL470	J50
	IC801		PDG113A		C412		CEANLO10N	v 150
	IC701		PM4002B					
	IC101,	IC1 02	TA7060AP		C251		CEANP4R7	M50
					C205		CEA S01 0M5	
	Q101,0	0603	2SA1529		C312		CEAS100MS	50
	Q555,0	•	2SA933S		C701		CEAS101M1	
	0605	Q	2SB560		C501		CEAS101M1	
	-	0109,Q251,Q501,Q556	2SC1740S					-
		0704,Q851	2SC1740S		C611		CEAS101M3	35
	Q / UZ,	Q10-1,Q051	25017405		C605		CEAS102M2	
	O402		2SC1740SLN		C511		CEASIR5M	
		-Q108,Q703	2SC2668		C803		CEAS221 M	
			2SC3327		C708,C8	08	CEAS2R2M	
	Q551-	-Q554			C700,C0	00	CERTOZICE	.50
	Q608		2 SD880		C104 C2	09,C304,C311,C402	CEAS330M	16
	Q401,	Q502	2SK246		C409	05,0504,0511,0402	CEAS330M	
					C609		CEAS331M	
	Q301		DTA124ES		C512		CEAS3R3M	
		Q105,Q606	DTA143ES			16,C810,C852	CEAS470M	
	Q104,	Q607	DTC124ES		C304,C7	10,0010,0032	CEA34/UM	10
	Q604,	Q801	DTC143ES		C207		CEAS470M	16
	D201	-D203,D301,D302	1 SS252		C614		CEAS470M	
					C610			
	D501.	D502,D701,D801,D802	1 SS252			52 C212 C216	CEAS470M	
	D851		1 SS252		C212,C2	53,C313,C316	CEAS4R7M CEASR22M	
		-D105	1 SS85		C310		CLASKZZIVI	150
		-						

Mark	No. I	Description	Parts No.	Mark	Mark	No.	Description	Parts No. Mark
		•	GET 1 1011 11			CNICOCC	DIN IACV(2D)	AKB1039
	C254		CEEA101M1			CN8208 CN3	PIN JACK(2P) JACK	AKN1006
	C553,C554		CEEA2R2M5			CNS	CABLE HOLDER (10P)	AKT1083
	C607	7612	CEEA332M3 CEEA470M2			X702	CERAMIC RESONATOR	ASS1025
	C560,C612,C		CEEA4R7M5			X401	CRYSTAL RESONATOR	ASS1042
	C307,C306,C	2333,0330	CLLZI-IC/IVI	.0		11.01		
	C606		CEHAQ101M	110		X801	CERAMIC RESONATOR	ASS1055
	C608		CEHAQ470M	125		X701	CRYSTAL RESONATOR	ASS1061
	C410		CFTXA224J5	60		X301	CERAMIC RESONATOR	ATF1027
	C252		CKDYB122K				AM RF TUNING BLOCK	AXX1043
	C709,C710		CKDYB332K	350		CN1	CONNECTOR(10P)	KPE10
	0557 0550		CKDYB471K	50		CN2	CONNECTOR(11P)	KPE11
	C557,C558 C711,C712		CKDYB472K			0112	4 SERIAL F.E. MODULE ASSY	AXQ1004
	C559 (HEWZIXK AND HZIXK TYPES)	CKDYX103N					
	C101 C102 (C107,C305,C411	CKDYX103N			Note: 4 se	rial F.E. module assy has no servis	se part.
	C152,C615	2107,0303,0411	CKDYX104N					
	0102,0010		POWER ASSEMBLY				SEMBLY	
	C111,C112,0	C153,C201,C202	CKDYX223N					
	C204, C206,	C306,C314,C5	CKDYX223N		SEM	CONDUC		2SC2878
	C7,C705,C7		CKDYX223N			Q601,Q60		S5566
		C210,C302,C309	CKDYX473N			D601 - D	000	35500
	C502,C706		CKDYX473N	V123	COIL			
	C4 C005 C0	51	CKPUYB101	K50	COIL	L601	(HEWZIXK AND HZIXK TYPES)	ATF1135
	C6,C805,C8	1,C307,C308	CKPUYB102			Door	(12211211212121212121212121212121212121	
	C4,C715,C8	07	CKPUYB102		TRA	NSFORM	ERS	
	C503	07	CKPUYB121		Δ	T601	(13.0VA)	ATT1253
	C203		CKPUYB221	K50				
						ACITORS	3	1.001054
	C802,C809		CKPUYF473		$\Delta\!$	C601		ACG1054
	C103,C106,	C109,C11,C110	CKPUYY103			C603		CEA S330M25 CKDYF473Z50
		C303,C310,C401	CKPUYY103			C604		CKDYX473M25
		C702,C713,C714	CKPUYY103			C617	6	CQMA473J50
	C801,C806		CKPUYY103	OMITO		C602,C61	O	CQMITTION
	C551,C552		CQMA222J5	0	RES	ISTORS		
	C505,C506		CQMXA102		0	R601,R60	03	RD1/4PM010J
	C513		CQPA471J10	00			-1	
							Other Resistors	RD1/8PM□□□J
RES	ISTORS		D 4 5771 0 4 I		OTH	EDC		
	R834		RA5T104J	2.1	ОТН	EHO	CABLE HOLDER (10P)	AKT1083
	R606		RD1/2PM15: RD1/2PM82				CABLE HOLDER (101)	
	R103,R608 R307		RD1/4PM151J		DISPLAY ASSEMBLY			
	R301		RD1/4PM33		DIS	LFVI	ACOLINDE I	
	11001				SEM	ICONDU	CTORS	* C35310E
	R571,R572		RDR1/4PM1			IC901		LC75712E
	R555,R556		RDR1/4PM1			D901		1 SS252 AEL1099
		(HEXK AND HBXK TYPES)	RDR1/4PM1		D907 D902 – D906		MTZJ7.5	
	R561,R562		RDR1/4PM2 RDR1/4PM2				7900	1411237.3
	K559,K560	(HEXK AND HBXK TYPES)	ADAI/4FML	J J	SWI	TCHES 4	AND RELAYS	
	R551,R552		RDR1/4PM2	242J	J.,,	S901 — S		ASG1029
	R565,R566		RDR1/4PM2					
	R567,R568	(HEWZIXK AND HZIXK TYPES)	RDR1/4PM2	271 J	CAF	ACITOR	S	CONTINUO COCCACO
	R557,R558		RDR1/4PM4			C901		CCPUSL300J50
	R559,R560	(HEWZIXK AND HZIXK TYPES)	RDR1/4PM	472J		C904 – C	C906	CCPUSL470J50 CEJA220M35
			DDD1 //D) //	F () I		C909		CEJA220M33 CEJA221M6
		,R569,R570	RDR1/4PM: RDR1/4PM:			C902 C907,C9	O8	CKDYX223M25
	R502,R509	P,R510	ACP1042	3033		C907,C9	06	
	VR501 VR301		ACP1043			C910-C	C920	CKPUYB101K50
	VR201		ACP1044			C903,C9		CKPUYY103M16
	, 10001							
	VR701		ACP1045		RES	SISTORS		DD1/QDM
			DD1 6001 4	, , ,			All Resistors	RD1/8PM□□□J
		Other Resistors	RD1/8PM_	الالالالالا	OT!	HERS		
^-	uene				OII	V901	FL TUBE(25×214.0)	AAV1193
Oil	HERS	SCREW	ABA-298			. 701	-2 - 5 - 2 (25 - 22 110)	
		ANTENNA TERMINAL 4-P	AKA1010					
		(HEXK AND HBXK TYPES)						
		ANTENNA TERMINAL 4-P						
		(HEWZIXK AND HZIXK TYPES)					

1.7 ADJUSTMENTS

1.7.1 FM TUNER ADJUSTMENTS

- Connect as shown in Fig. 2.
- Set the function to FM.

	Adionamana	FM SG (1 kHz ± 75 kHz dev.)			El diopiou			
Step	Adjustment name	Frequency (MHz)	Modulation	Level (dBμV)	FL display, IF BAND etc.	Location	Adjustmènt	
1	IF sensitivity-UP adjustment	98	MONO	Low input level	98 MHz MONO	T101	Adjust so that the voltage between TP9 and GND becomes maximum.	
2	T meter adjustment	98	MONO	60	98 MHz NARROW	T201	Adjust so that the voltage between TP1 and TP2 becomes 0±50 mV.	
3	MONO distortion adjustment	98	MONO	60	98 MHz NARROW	T202	Adjust so that the distortion becomes minimum.	
4	Repeat step 2 and 3 until optimum adjustment is obtained.							
5	VCO adjustment	108	OFF	60	108MHz NARROW	VR501	Adjust so that the output at TP3 becomes 76 kHz ±0.5 kHz.	
6	STEREO distortion adjustment (NARROW)	89(*2)	L-ONLY	60	89 MHz NARROW	T101	Turn the core of T101 within a range of $\pm 90^{\circ}$ and adjust so that the distortion becomes minimum.	
7	Muting level adjustment	98	MONO	15 ±5dB	98 MHz NORMAL	VR201	Adjust so that the muting is released at the input level shown on the left.	
8	SK level adjustment	88	EXTERNAL *1 (RDS SG)	60	88 MHz NORMAL	VR701	Adjust so that the voltage between TP6 and GND becomes maximum.	

^{*1:} RDS SG (AUDIO, PILOT, RDS, BK and DK: OFF, SK: ON)

Pilot 19 kHz, ± 6.75 kHz.

1.7.2 AM TUNER ADJUSTMENT

- Connect as shown in Fig. 2.
- Set the function to AM.

Step	Adjustment name	AM SG(400kHz, 30% modulation)			Adjustment		
		Frequency(kHz)	Level(dBμV/m)	FL Display	Location	Specifications	
1	S meter adjustment	1008	100	1008 kHz	VR301	Adjust so that the voltage between TP4 and GND becomes 4.5V \pm 0.1 V.	

^{*2 :} Stereo modulation : Main 1 kHz L+R, ± 68.25 kHz.

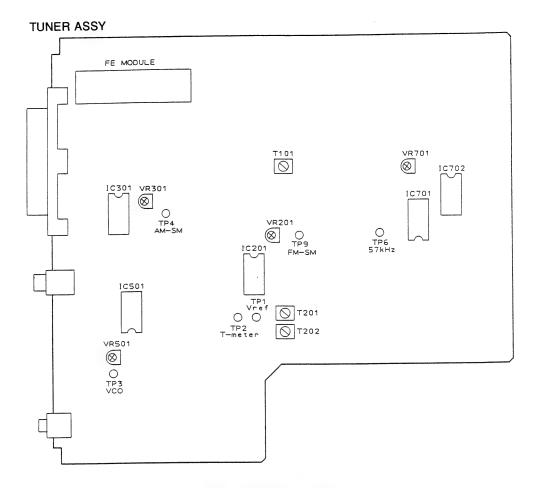


Fig. 1 Adjustment Points

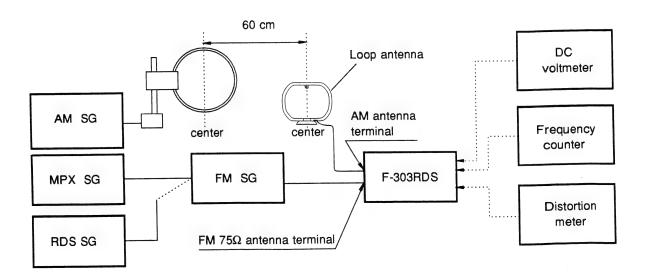


Fig. 2 Connection Diagram

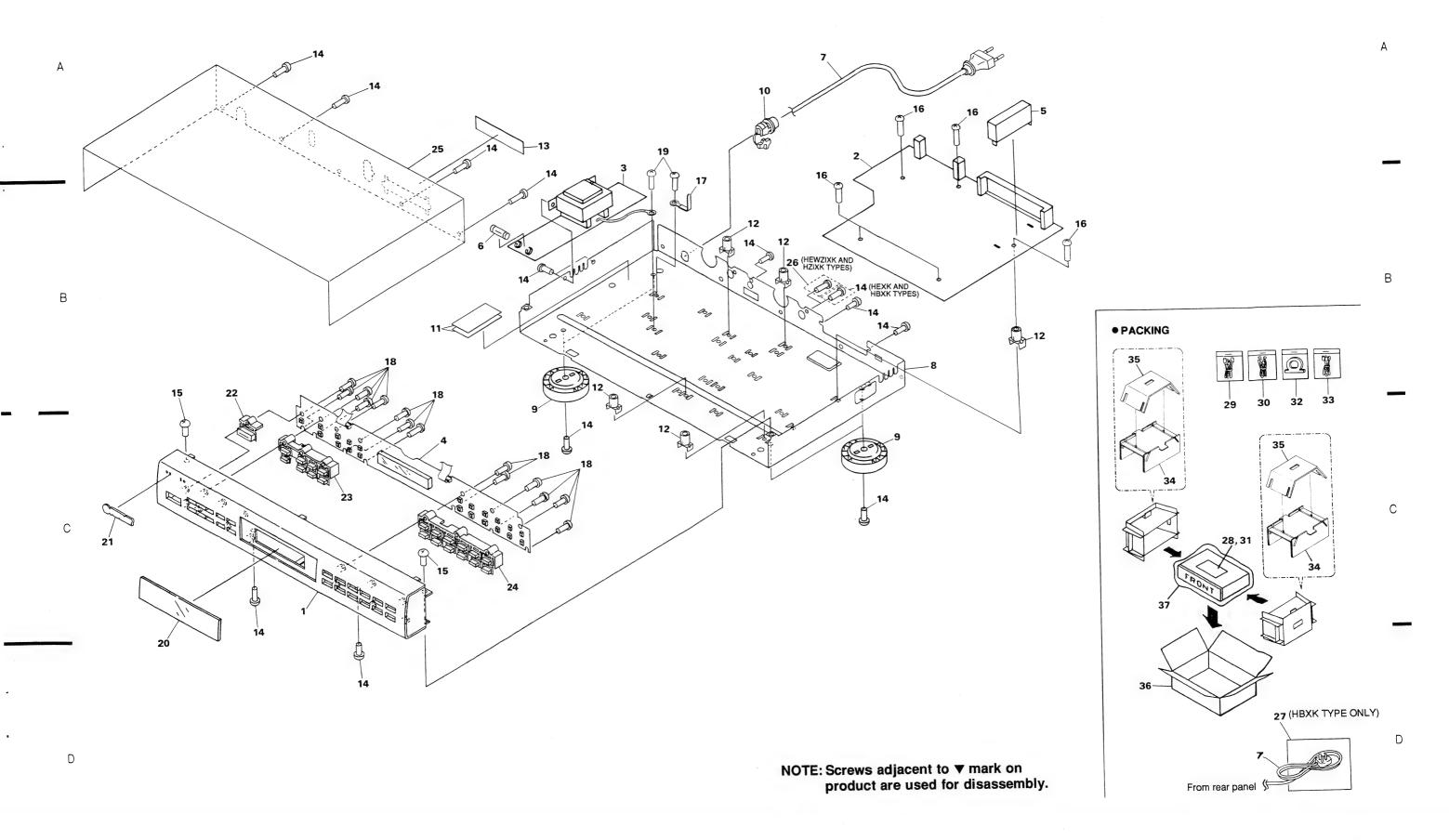
1.8 PARTS LIST FOR EXPLODED VIEWS AND PACKING

NOTES:

- Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
- The \triangle mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by " are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

Mark	No.	Description	Parts No.	Mark	No.	Description	Parts No.
	1	FRONT PANEL ASSY (F-303RDS SERIES)	AMB2506		24	STATION BUTTON(ABS) (F-303RDS SERIES)	AAD4055
	1	FRONT PANEL ASSY (F-303RDS-G SERIES)	AMB2511		24	STATION BUTTON(ABS) (F-303RDS-G SERIES)	AAD4065
	2	TUNER ASSEMBLY	AWZ5319		25	BONNET (F-303RDS SERIES)	ANE1518
		(HEXK AND HBXK TYPES)			25	BONNET	ANE1519
	2	TUNER ASSEMBLY	AWZ5317			(F-303RDS-G SERIES)	
		(HEWZIXK AND HZIXK TYPES)			26	EARTH SCREW	ABA1047
	3	POWER ASSEMBLY	AWZ5320			(HEWZIXK AND HZIXK TYPES)	
	2	(HEXK TYPE)	A XX/77.50.01		27	AIR CAP (HBXK TYPE ONLY)	AHG1203
	3	POWER ASSEMBLY (HBXK TYPE)	AWZ5321		28	OPE.INSTRUCTIONS	ARE1296
		(HBAK TIFE)			20	(English/French/German/Italian/	ARE1290
	3	POWER ASSEMBLY	AWZ5318			Swedish/Dutch/Spanish/Portuguese)	
	,	(HEWZIXK AND HZIXK TYPES)	71W23510			(HEXK TYPE)	
	4	DISPLAY ASSEMBLY	AWP1054		28	OPE.INSTRUCTIONS	ARE1322
	5	4 SERIAL F.E. MODULE ASSY	AXQ1004			(German/Italian)	
$oldsymbol{\Phi}$	6	FU1 (I=T400MA,V=250)	AEK-504			(HEWZIXK AND HZIXK TYPES)	
Δ	7	AC POWER CORD	ADG1138		28	OPE.INSTRUCTIONS (English)	ARB1462
		(HEXK, HEWZIXK AND HZIXK T				(HBXK TYPE)	
$\dot{\Phi}$	7	AC POWER CORD (HBXK TYPE)			29	PLUG CORD	ADE-052
$oldsymbol{\Lambda}$		FUSE (T5A/250V)	AEK1046		30	FM ANTENNA	ADH1016
		(For HBXK type of AC POWER CORD)			(HEXK AND HBXK TYPES)	
NSP	8	CHASSIS	ANA1122		30	FM ANTENNA	ADH1019
	9	INSULATOR	PNW1912			(HEWZIXK AND HZIXK TYPES)	
$oldsymbol{\Lambda}$	10	STRAIN RELIEF	AEC -882	N SP	31	WARRANTY CARD	ARW1048
NSP	11	BARRIER	AEC1416		32	LOOP ANTENNA	ATB1011
NSP	12	PCB MOULD	AMR1525		33	CORD WITH PLUG	PDE1095
	13	ANTENNA LABEL	AAX1691		34	SIDE PAD A	AHA2015
	10	(HEXK AND HBXK TYPES)	A A \$71 COO		24	(HEXK, HEWZIXK AND HZIXK	
	13	ANTENNA LABEL	AAX1609		34	SIDE PAD A	AHA2017
		(HEWZIXK AND HZIXK TYPES)			35	(HBXK TYPE) SIDE PAD B	AHA2016
	14	SCREW	ABA - 298		23	SIDE THE E	THITLEGIC
	15	SCREW (STEEL)	ABA1011		36	PACKING CASE	AHD2727
	16	SCREW	ABA1018			(F-303RDS/HEXK AND	
	17	BINDER	AEC-826			F-303RDS/HEWZIXK)	
	18	SCREW	BBZ26P100FMC		36	PACKING CASE	AHD2733
						(F-303RDS-G SERIES)	
	19	SCREW	VCZ30P060FMC		0	DAGWING GAGE	ATTROTOG
	20	PANEL	AAK2466		36	PACKING CASE	AHD2728
	21	NAME PLATE	PAM1608		27	(F-303RDS/HBXK)	ATTC1107
	21	(F-303RDS SERIES) NAME PLATE	AAM1059		37	PACKAGING SHEET	AHG1107
	21	(F-303RDS-G SERIES)	AAMIUJ				
	22	POWER BUTTON (ABS) (F-303RDS SERIES)	AAD2425				
	22	POWER BUTTON (ABS) (F-303RDS-G SERIES)	AAD4066				
	23	BAND BUTTON (ABS)	AAD2502				
	23	(F-303RDS SERIES)	AAD2302				
	20	DAND DUTTON (4 D C)	A A D 4067				
	23	BAND BUTTON (ABS) (F-303RDS-G SERIES)	AAD4067				

2.1 EXPLODED VIEWS AND PACKING



В

2.2 SCHEMATIC AND PCB CONNECTION DIAGRAMS

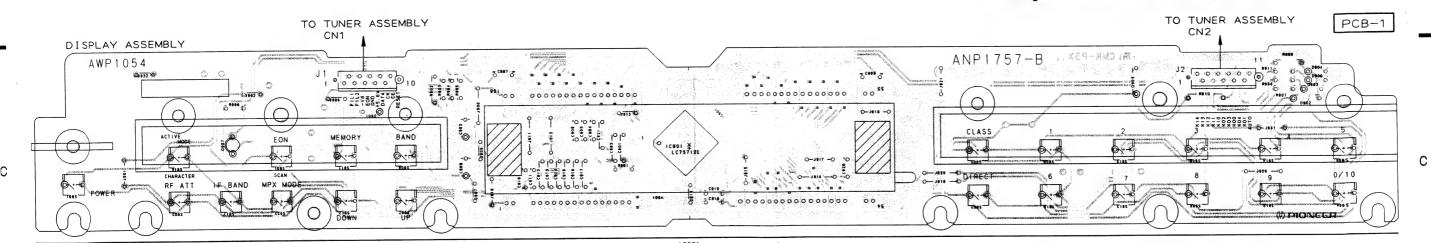
2.2.1 DISPLAY ASSEMBLY

NOTE FOR PCB DIAGRAMS:

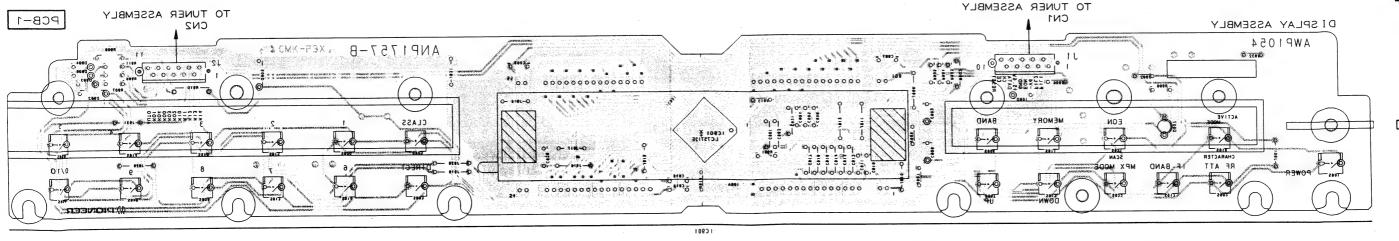
- 1. Part numbers in PCB diagrams match those in the schematic diagrams.
- 2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
Q504 E 0 0 0	Q504 Q504	Transistor
© ^{D203} -0	o- 	Diode
©C513 ©C513	○── <mark>8†─○ C513</mark>	Capacitor (Polarized)

- The transistor terminal marked with E or Shows the emitter.
 The diode terminal marked with ⊚ or Shows cathode side.
 The capacitor terminal marked with ⊚ or Shows negative
- terminal.
- This diagram is viewed from the mounted parts side.



• This diagram is viewed from the foil side.



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NOTE FOR PCB DIAGRAMS:

diagrams is shown below.

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2.2 SCHEMATIC AND PCB CONNECTION DIAGRAMS

2.2.1 DISPLAY ASSEMBLY

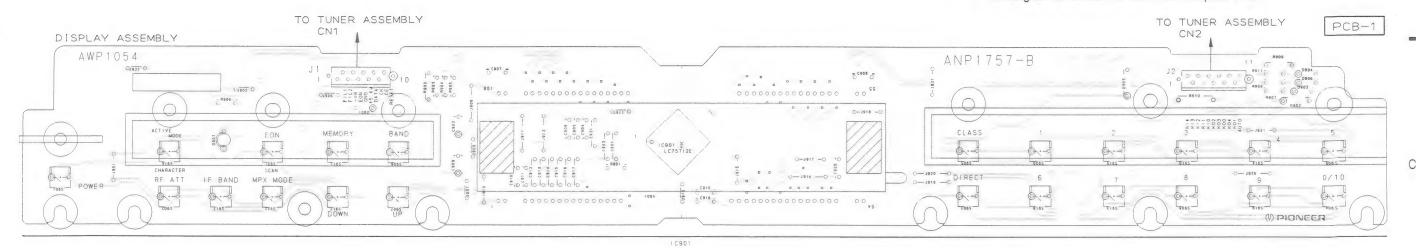
1. Part numbers in PCB diagrams match those in the schematic diagrams. 2. A comparison between the main parts of PCB and schematic

Symbol in PCB Symbol in Schematic Diagrams Part Name Q504 E O O O Y H Transistor Q504 Q504 Q504 © D203-0 0-10 D203 Diode C513 0-14-0 Capacitor C513 (Polarized) C513

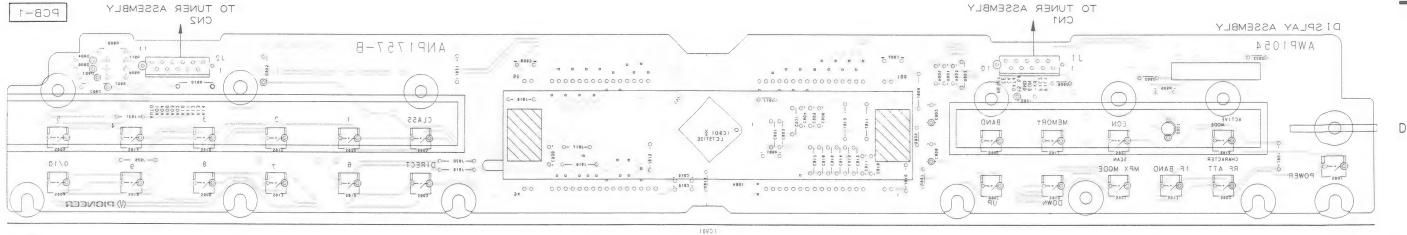
The transistor terminal marked with E or Shows the emitter.
 The diode terminal marked with ⊚ or Shows cathode side.
 The capacitor terminal marked with ⊚ or Shows negative

terminal.

This diagram is viewed from the mounted parts side.



• This diagram is viewed from the foil side.



2-5

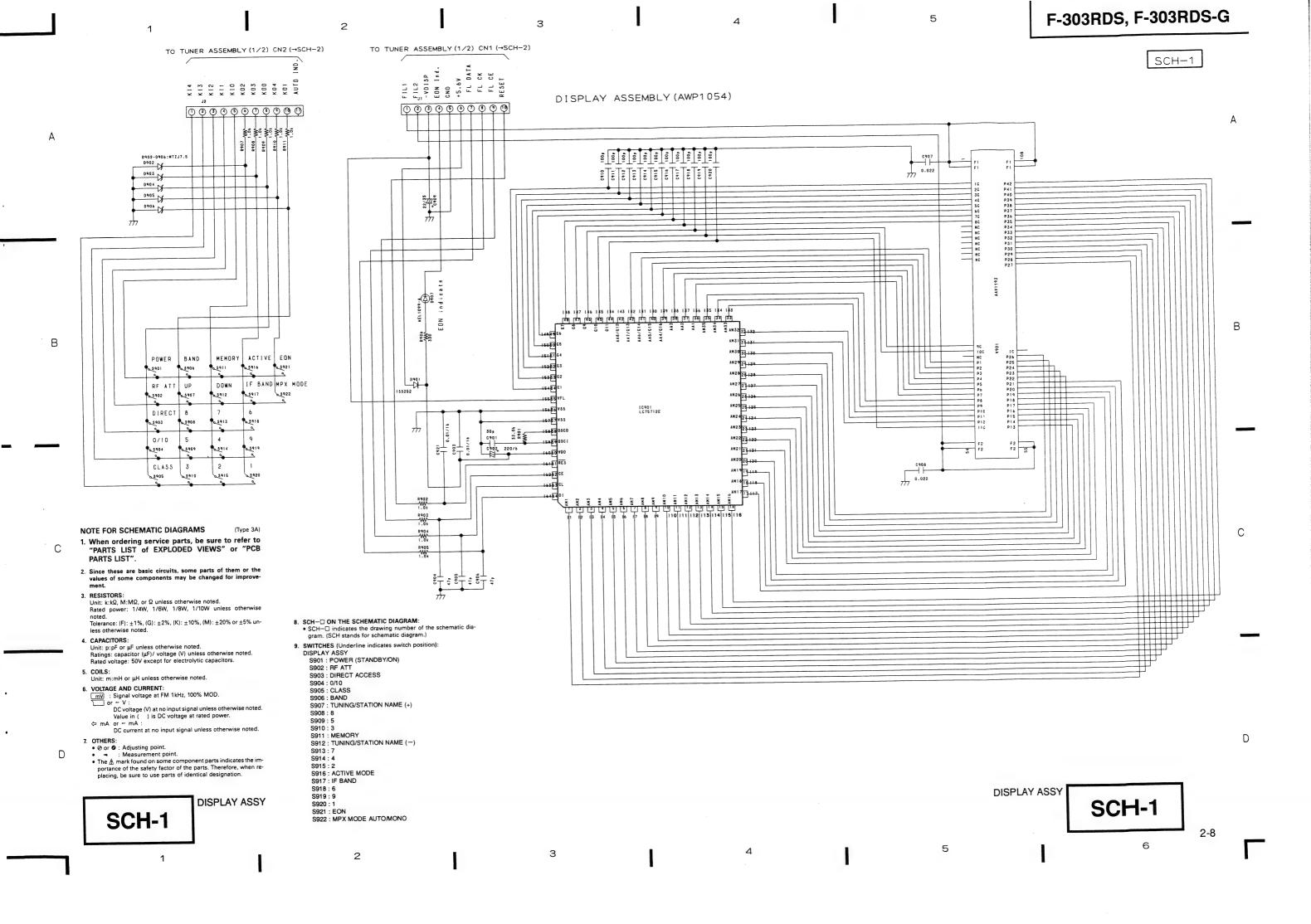
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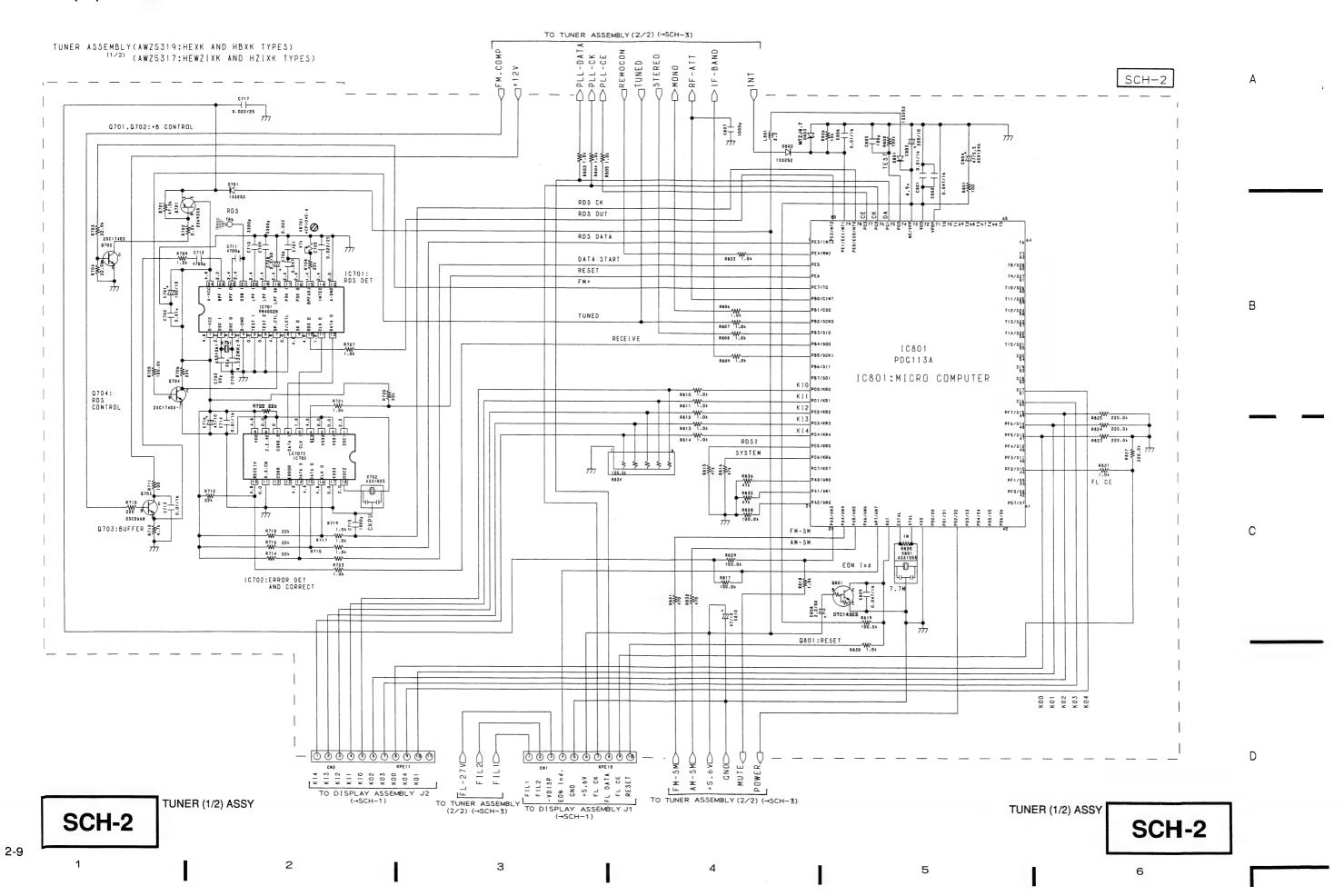
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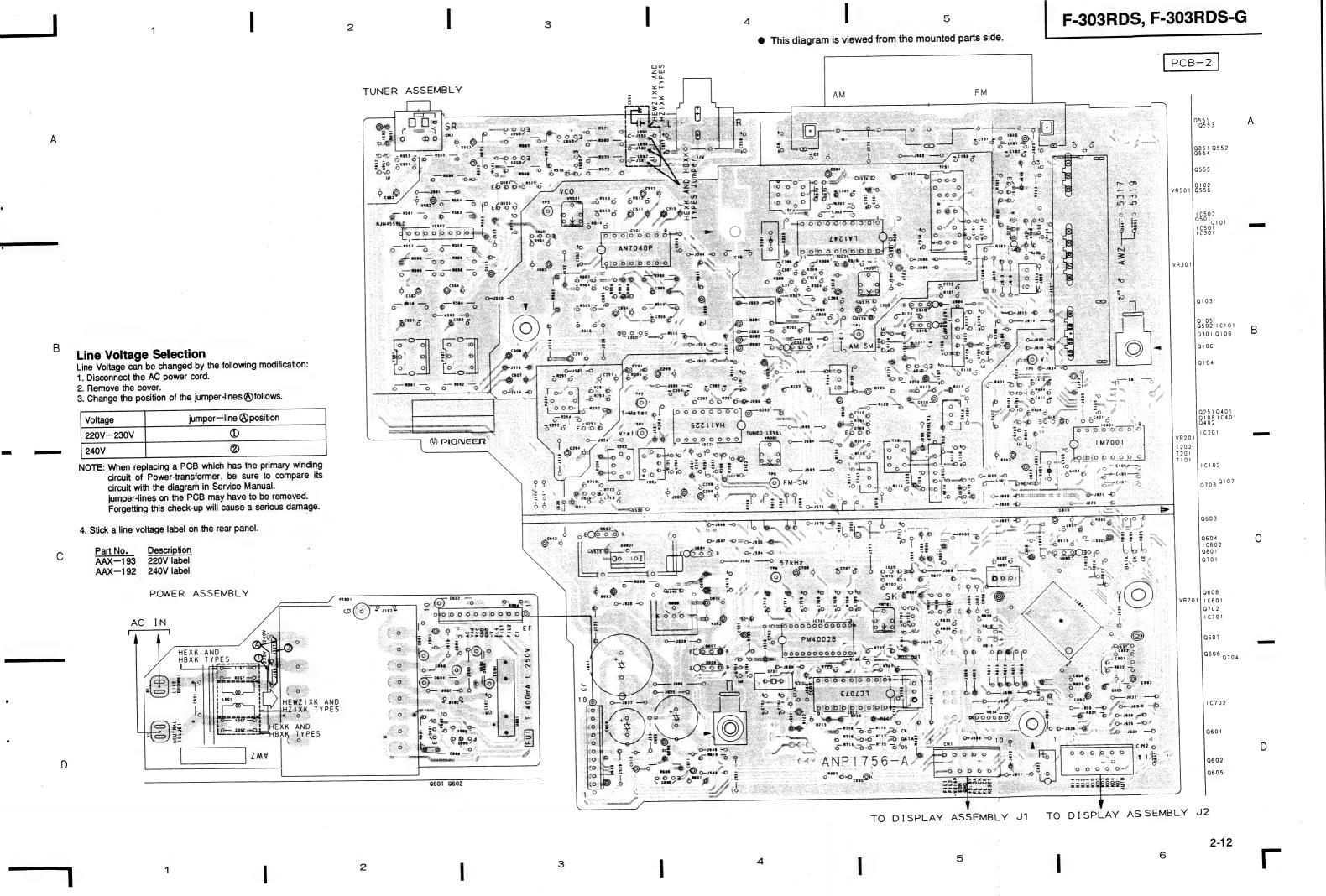
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D





5317

PCB-2

Q551 Q553

Q851 Q552

Q555

10502

2-12

VR501 Q102

AM

O O C303 - C303 - C303

F HP II FM

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030

TUNER ASSEMBLY

0 0

000000000 - R557 - - R558 -

- R559 - - R560 -

- R555 - - R556 -

O C554

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10/0 - 8853

Line Voltage Selection

Line Voltage can be changed by the following modification:

- 1. Disconnect the AC power cord.
- 2. Remove the cover.
- 3. Change the position of the jumper-lines (A) follows.

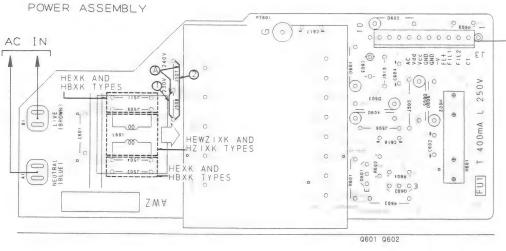
Voltage	jumper—line (Aposition	
220V-230V	①	
240V	2	

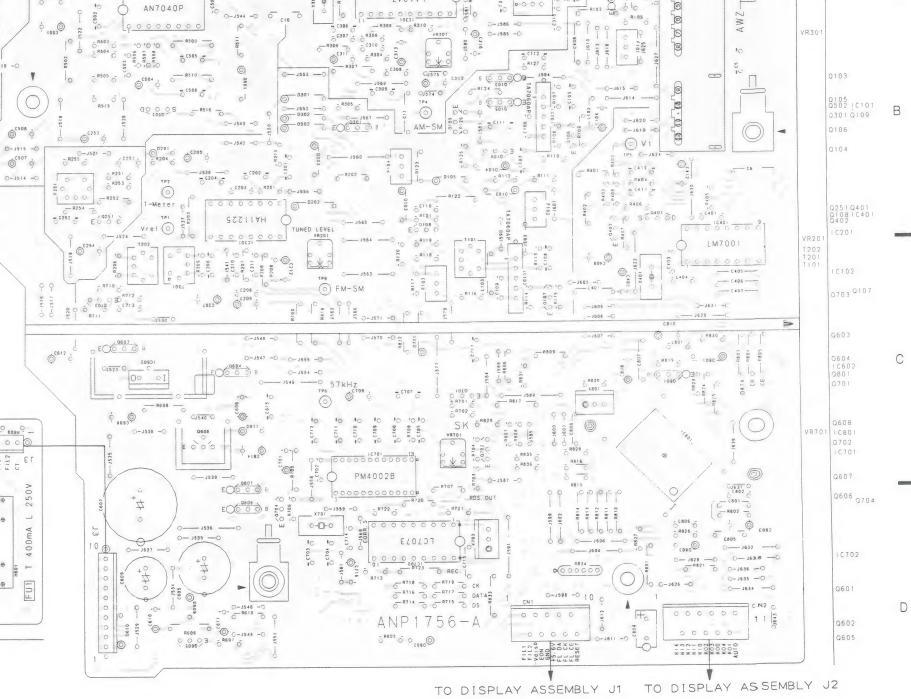
NOTE: When replacing a PCB which has the primary winding circuit of Power-transformer, be sure to compare its circuit with the diagram in Service Manual. jumper-lines on the PCB may have to be removed. Forgetting this check-up will cause a serious damage.

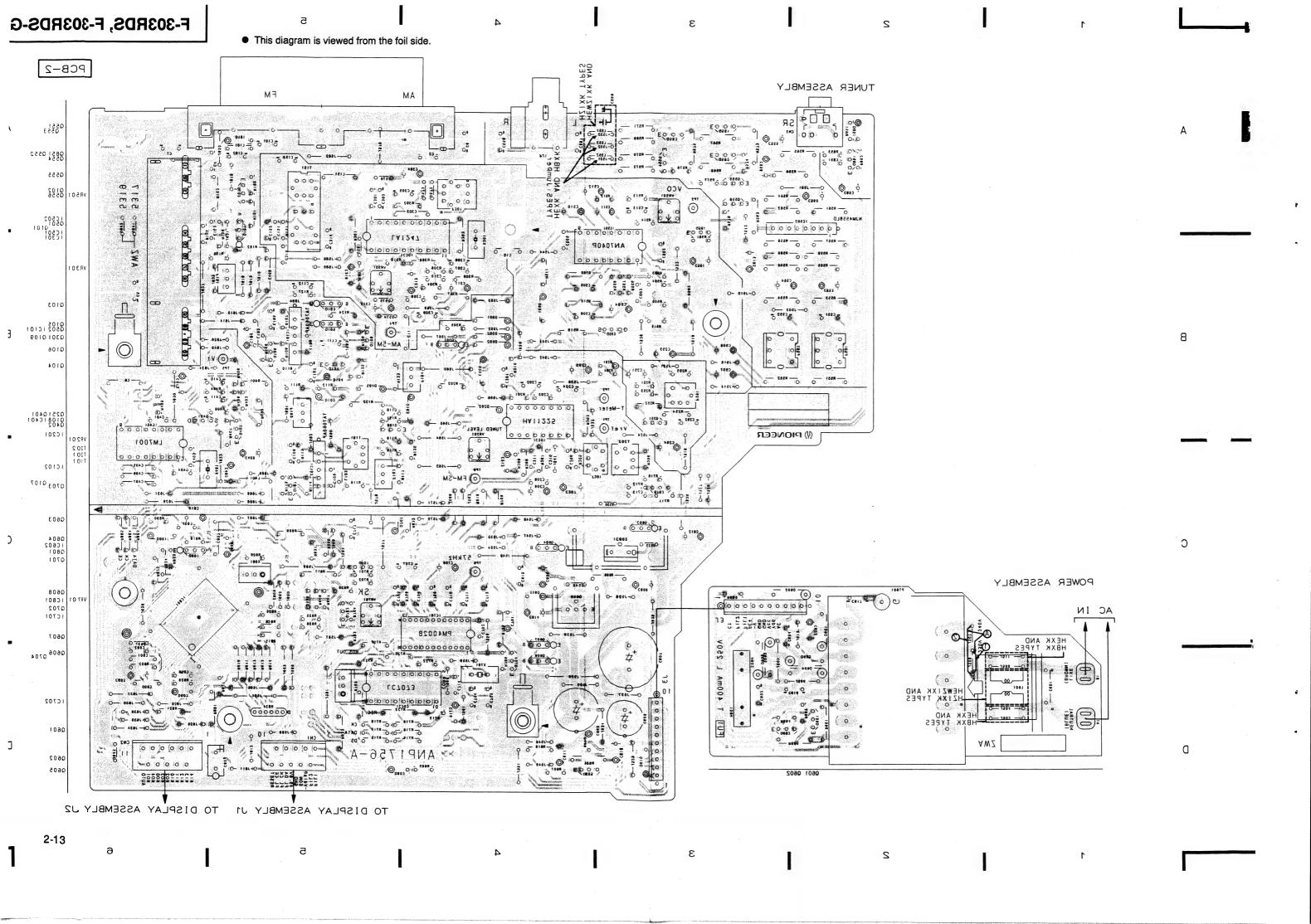
4. Stick a line voltage label on the rear panel.

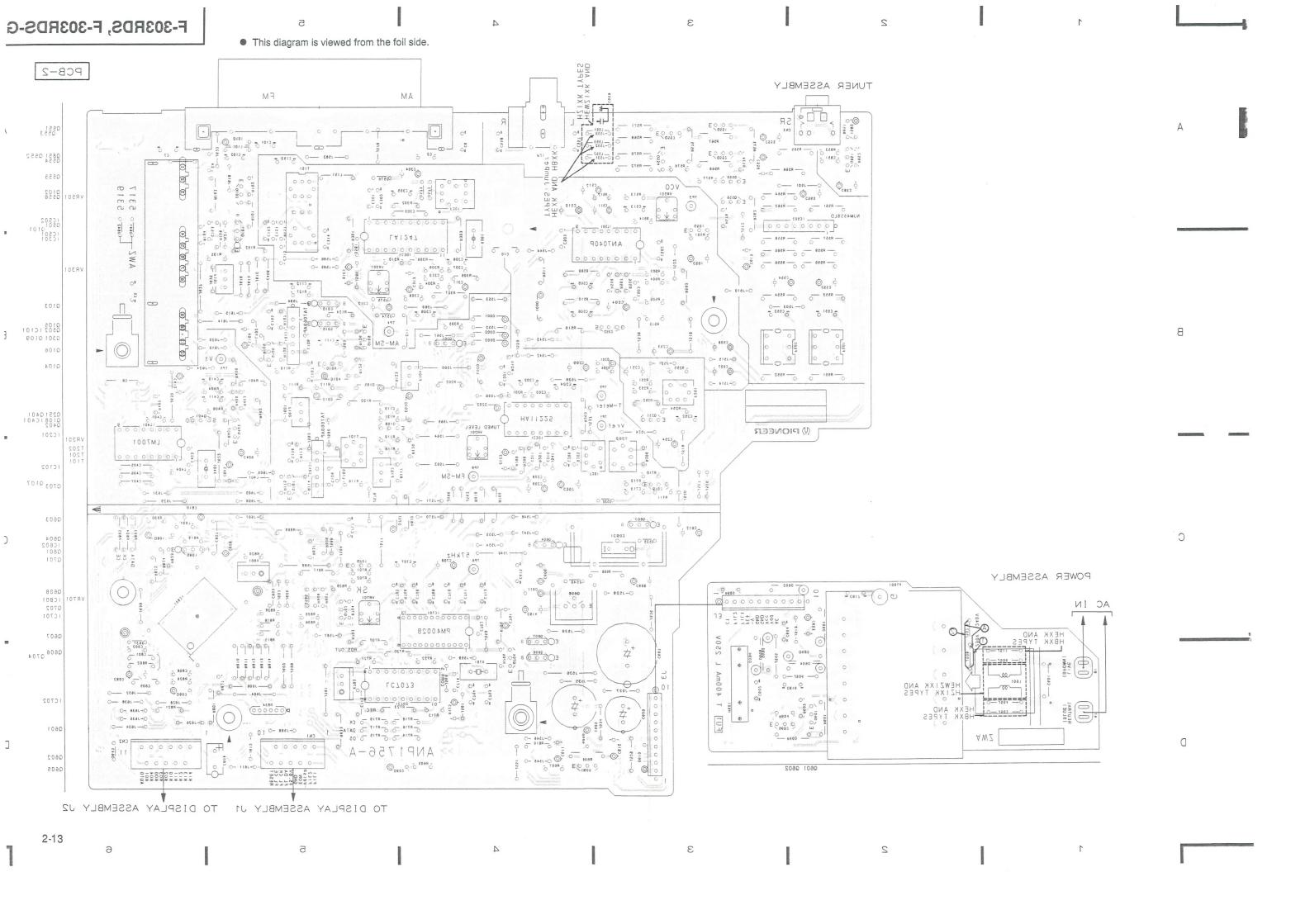
Part No. Description 220V label AAX-193 AAX-192 240V label

D









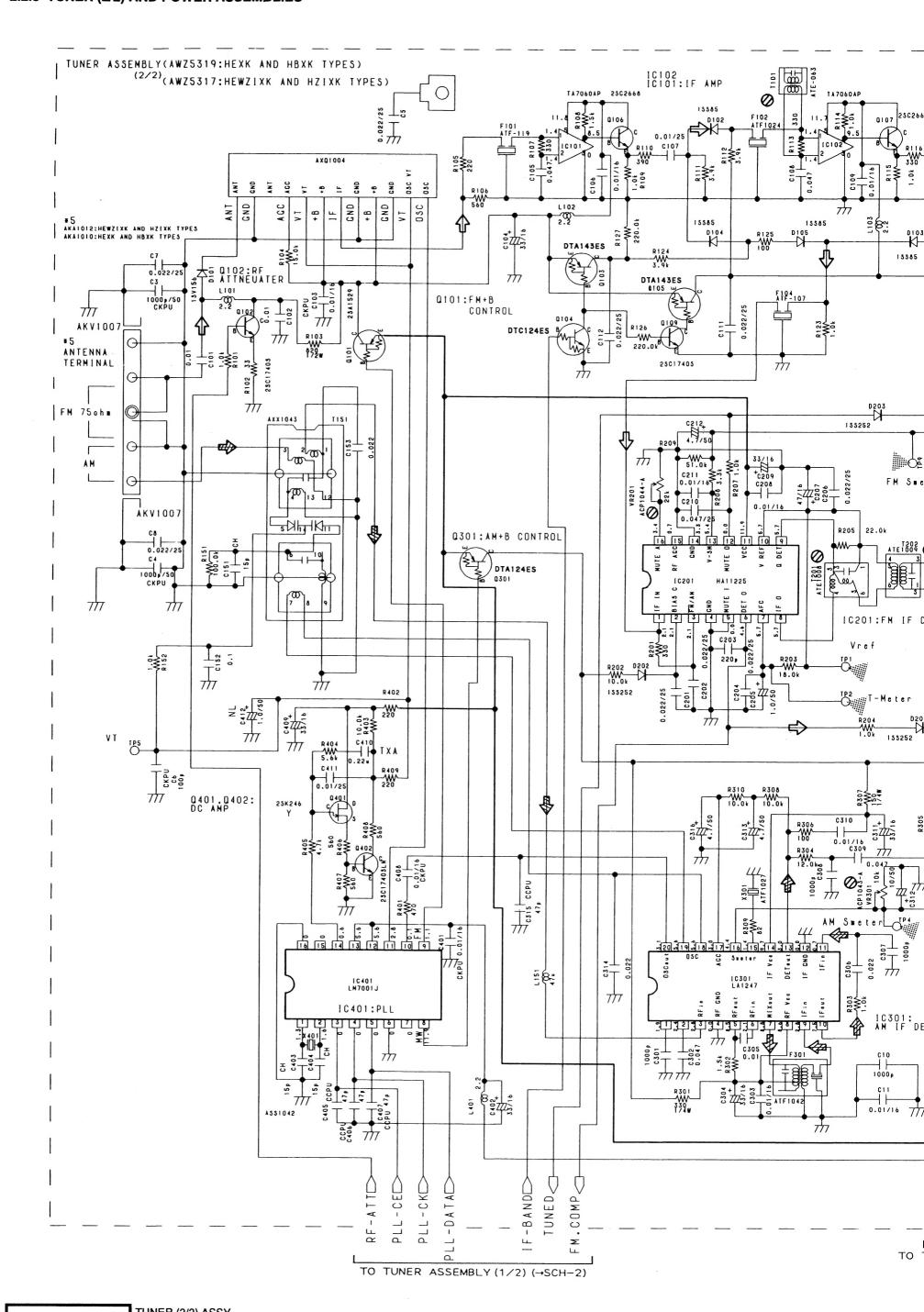
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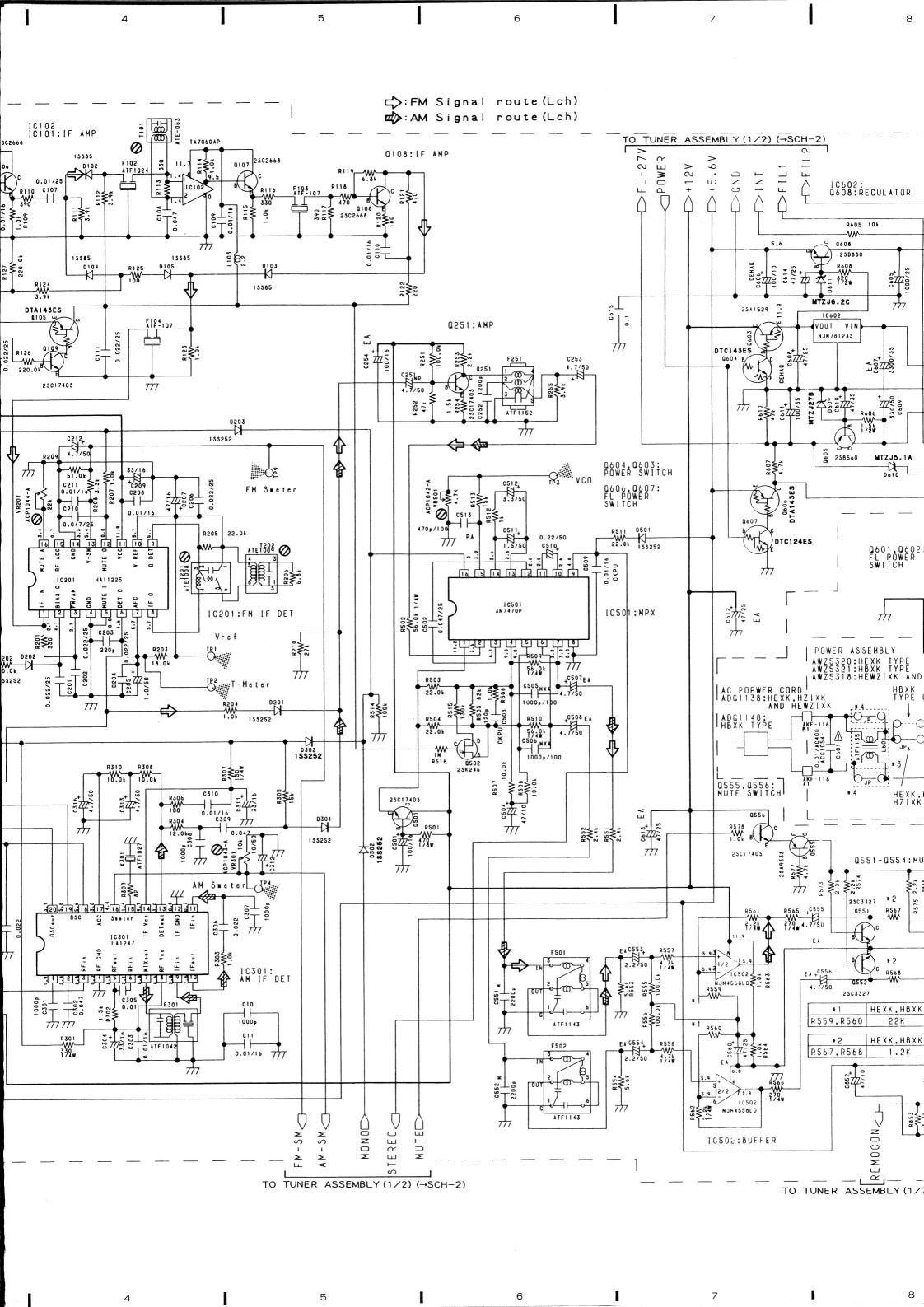


3

SCH-3 TUNER (2/2) ASSY, POWER ASSY

2

3



TUNER (2/2) ASSY, POWER ASSY SCH-3

8

2-17